

1 ggaaggagca ggaggcagcc cagggcgagc gggaggagct ggcagcgggg cgcatgccag
61 gcgggggtcc tcagggcgcc ccagccgccc ccggcgccgg cggcgtgagc caccgcgcag
121 gcagccggga ttgttacca cctgcagcgt gcttcggag gcggcggtg gcacggaggc
181 cgggctacat gagaagctcg acaggcctg ggatcgggtt cttcccca gcagtggca
241 cactgttccg gttcccagga ggggtgtctg gcgaggagtc ccaccactcg gagtccaggg
301 ccagacagtg tggccttgac tcgagaggcc tcttggtccg gagccctgtt tccaagagtg
361 cagcagcccc tactgtgacc tctgtgagag gaacctcggc gcactttggg attcagctca
421 gaggtggcac cagattgect gacaggctta gctggccgtg tggccttggg agtgctgggt
481 ggcagcaaga gtttgcagcc atggatagtt ctgagaccct ggacgccagc tgggaggcag
541 cctgcagcga tggagcaagg cgtgtccggg cagcaggctc tctgccatca gcagagttga
601 gtagcaacag ctgcagccct ggctgtggcc ctgaggtccc cccaaccctt cctggctctc
661 acagtgcctt tacctaagc tttagtttta ttcggctctc gcttggctct gccggggaaac
721 gtggagaagc agaaggctgc ccaccatcca gagaggctga gtccattgc cagagcccc
781 aggagatggg agccaaagct gccagttgg acgggcctca cgaggaccgg cgatgtctct
841 ctcagccctt cagtctctt gctacacggg tctctgcaga cttggccag gccgcaagga
901 acagctccag gccagagcgt gacatgcatt cttaccaga catggaccct ggctcctcca
961 gttctcttga tccctactg gctggctgtg gtggatgg gaggcggc tcagggatg
1021 cccactcttgg gacaccctg ctcaggaaat gggagccagt gctgcggac tgcctgctga
1081 gaaaccggag gcagatggag gtaatatact taagattaa acttcagaaa cttcaggaag
1141 atgcagttga gaatgtat tatgataaaag ctgagacgtt acaacaaaga ttagaagacc
1201 tggacaaga gaaaatcagc ctgcactttc aacttccttc aaggcagcca gctcttagca
1261 gtttcttggg tcacctggca gcacaagtcc aggctgcctt ggcgcgtggg gccactcagc
1321 aggccagcgg agatgacacc cacacccac tgagaatggc gccgaggctg ttggaaaccca
1381 ctgctcagga cagttgcac gtgtccatca cgagacgaga ctggcttctt cagggaaagc
1441 agcagctaca gaaagaaatc gaagctctcc aagcaaggat gtttgtctg gaagccaaag
1501 atcaacagct gagaaggaaa atagaggagc aagagcagca actccagtgg cagggctgcg
1561 acctgacccc actggggc cagctgtccc tgggtcagct gcaggaggc agcaaggct
1621 tgcaggacac cttggcctca gcccgtcaga ttcccttcca tgcagagcca ccggaaacca
1681 taaggagcct ccaggaaaga ataaaatccc tcaacttgc acttaaagaa atcactacta
1741 aggtgtgtat gagtggaaa ttctgcagca ccctgagggaa gaaagttaac gatattggaa
1801 cccaaactacc agccttgctt gaagccaaaa tgcattccat atcaggaaac catttcttgg
1861 cggctaaaga cctcaccggag gagattagat cattaacatc agagagagaa gggctggagg
1921 gactcctcag caagctgtt gttttttttt ccagggatgt caaaaagctg ggaagtgttta
1981 aagaagatta caacagactg agaagagaag tggagcacca ggagactgcc tatgaaacaa
2041 gtgtgaagga aaatactatg aagtacatgg aaacacttaa gaataaaactg tgcagctgca
2101 agtgtccact gcttggaaa gtgtggaaatg ctgacttggaa agcttgcga ttgttatcc
2161 agtgcctaca gctccaggaa gcccggggaa gcctgtctgtt agaagatgag aggcagatgg
2221 atgactttaga gggagctgctt cctccatttc ccccccaggct ccactccggag gataaaagga
2281 agaccctttt gaaggtattt gaagaatggc agactcacctt catccccctt ctgcactgtg
2341 ctggagggtga acagaaagag gaatcttaca tcctttctgc agaacttggaa gaaaagtgtg
2401 aagacatagg caagaagcta ttgttacttgg aagatcaact tcacacagca atccacagtc
2461 atgatgaaga tctcattcag tctctcagga gggagctcca gatggtgaag gaaaactctgc

FIG. 1A

2521 aggccatgat cctgcagctc cagccagcaa aggaggcgaa agaaaagagaa gctgcagctt
2581 cctgcatgac agctgggtgc cacgaagcac aagctgagg agtgacggaa tgggggaggg
2641 aggtgggcca ccatgtttgg acccgggggg ctgccttcc ctccccccc atagctaaga
2701 tgcctgaatc aattacggag atacagagcc ttgaggtct tcagtggaaa gttggttcat
2761 gttcattctc atcagtgtga aactgaggag tctgcattt ggaatatgga gagagagact
2821 gatttgcgtga atttccttct aaatgtcaat caaaaatttc tttccatgt cattcttggg
2881 aatgtcttcc acaggattt agaatagttt catctcagcc cccatttagag agaagttggg
2941 gtgaattctg gaaaaatgtc tcttttccct gtgcatttgc cttctgtca aacgaaaat
3001 atttcctgat tcaagattct ataaaaaggaa aaccaggat aagactctgt catcatacc
3061 gttacacgtt cctacagggtg cacaatctaa gagagctaat taacctcaga gtctggagtt
3121 aacagctttt cacctactt ctcctgtat ctaatattat cttagaaaaa ttaatatgca
3181 atttccaaaaa gatattttgg taagacaaca acctcccagt gatatgccac cttcaattt
3241 tccttttgtg gcaatgattt catctgaaga aaggatccct gagagtctct gtttcatcag
3301 gacattctga aatttaccca cagtgaggct gtggatggat caggggacct gtataaaaatg
3361 tttgagcctg ttccatTTTc ccgtggaaacc tgtttcaactc aatgccaggc agtgcagcat
3421 ttaggaaagc agtgcagttac tcagtaaggc agtgcagttac tcagtaacac aatacagtac
3481 tcagggcgtg cgtactcag taagacagt cagtgctcag taaggcagtg caatactcag
3541 taacagtgtt gtactcagta acagtgaagt actcagtaat acagtagt attcagtaag
3601 gcagtgaagt actcagtaat acaatacagt actcagttag gcagtgcagt actcaggaat
3661 gcagcacagt actcaggcag tgcaatactc agtgcggta tcagtaacac agtgcagttac
3721 ttagtaacacag tgcagttactc agtaacagt cgtactcag taaggcagtg cgtactcag
3781 taacacagt cgtactcag taatacagta cgtactcag taaggcagta tggtaactcag
3841 taaagcaatg caatgctcag taacacagt cagtgctcaa taaggcagtg cagtgctcag
3901 taaggcagtg aattgttttag taacacagt tagtgctcag taggacagca tagtactcag
3961 taacacaggg cagcttagtac tcaagtactat aagtactgag tacttatata ggcataatgtag
4021 tactcagtaa atcagtgcag tactcagtaa tgcaaggcata ttccaggcctc ctgctgggct
4081 gcttctttgg cccagctggg actccttattt agacagctgc aaaacagggct gattcaatt
4141 aggcagcact tcccaaagtg cactgaggaa ggtggcccca agagaagctc tctaaaacaaa
4201 ggagtaccct ctctggtaa gtacctttgg taaatacacc ataccataat atctgcttgg
4261 agaaccacaa tgcacattag catattagtc tgagagagaa cttatagtaa ggaaactc
4321 ttgattttat ctaacctcaa actttccaag ttaatggat cgtgaatttt ttcatgtaa
4381 ctcctattca tatccccatag atcttagtatt gtacagcact gcattctctg aggaagtccc
4441 agtccaaact ctgatttaca tcactttaga aaccacactc acactttgc agagtgttga
4501 gcttaataac tacctgcccac agattggtaa atttaatcca gtggttgttc tgttgtgtct
4561 tctgttctca tttatgtgtt tagggatagt gaggttcctg cttctcaactg gatccacgg
4621 tatgagacca tttttgtcat tccctgaagt cacactggcg ttccagaag gcatctgg
4681 ctttgcgtcag ctttccatgc tgcagcact ttctgtctc agtcaaggag atggccatgc
4741 ttaaqccacq aattggctgg qgtccaggaa acaaagcaaa agcacaatat gtgaatgtgc

FIG. 1B

4801 tgattgtgtt ccctatggct ttatctcgag caaaatacac tctacatatt ttaataataa
4861 gtataatttag cttgttcctg gacttcattt tcaatgatga accaaattcc tgaattattt
4921 ataattgtgt ctaaagaaaa ttatgaactg gtcacatggc acttggaaatc cttgagttaa
4981 ttccagtcaa gcaaaaacttg ggaagagtca ggattggcca cattgccaat aacaattcc
5041 tacttcgaca tatgtcttt caaaaaggct cccagacaca agacatctt accgtcacta
5101 gcccaagtgt tttgttattac tcagacacca tcatgaaata attctgtgag gtcatgtatgt
5161 atttgaaaat tctgcaagtt aataactgcc ttgaattgtt tgaacccgaa ataagggttc
5221 tttggtagct ctagtagata gtgtgttcat ttccctgtc caaatttga agtatttggg
5281 caggtgagtc atgttttaac cacaagccat aactcatctg ttgtcttgc ttggctttag
5341 agtacatttc agaaaagtccg ctaagggcca gcgtgcttct tctggctaca caaccttctc
5401 aggacaagcc cactgtctt agccactttg accctggag acacaggact gtgtatctc
5461 aatcatacta tacagcagtt tttgtcaggg gaacataaaa atatccaaga gaggttaggg
5521 ctttagattt aaagcatcaa aacaacaaca atggaaattt atgttggcga tagccaagac
5581 cacaagcaaa agcacatact ggaaatgtg agttagaatc tgatttgact gggatgttt
5641 atgagaatgt aagtgtgata ttatactgtc tgccttgctg gaatgtggc tttcaaatgg
5701 tcaccattt ttctttcact ggctcgagtt aggacatgtc atcagtaata gtcccagttc
5761 catccaaactt tctgaaattt cattttttt tttgagatgg agtctctctc tgcacccaa
5821 gttggagtgc agtggccccg caatctggc tcactgcaac ctctacctcc caggttcaag
5881 ctattctact gcctcagcct cccaaatgtc tggggttaca ggcatttgcc accggccct
5941 gatgattttt gtatTTTtag tagagacagg gttcaccat gttggctagg agggctcaa
6001 actccctgacc tcaggcgatc cacccccacc tcggcttccc aaagtgtga gattacaggt
6061 gtgagccacc gcacccggcc aactttctga aatttcaaaa ctgaattgtat ccttctccaa
6121 attagatat actattggaa acttgtctt ccctgcagta aggctggttt ccccacccca
6181 gaaacatgtc acgggtggta ccatgctaag cccttgcatt gctaagccct ttacagtcat
6241 atcctataat ccccatatca accttataag gaaggtgtt ttagatgtg caactgagcc
6301 ttaagaggac taattccctt tttctaaggc acagagctgg taaaatgtga agtaatagt
6361 aacctaacag tcagagacag gcagcatgct cttacttagt gctttcccta aagttcctt
6421 aatgtccttt tgagatTTTg agccatggaa cttactgtt cacctggcta agaactcatg
6481 gccactgtgg aaatcttggt tagggagtca aagaaactga gcctggggca aacgaggct
6541 cccacactgc caggggagcc tcactgtgaa gtctaggctc agacaggcat caacaaacct
6601 attcaccatcca ccatcatctt gatctaacca ttcccccagtc atccaggaa aaccactcac
6661 agcctgacac tgggctgact ttcttgaaga tcctcatcca attgggttt ttcagaagtg
6721 ttccaatatt atgaattctg tgggtggag aaaagcaacc atgcatttac tggtcaatgc
6781 cttcttgat atgtattca atactttac tttaatatc ctcaccttat ctaatcttg
6841 aatTTTgtca tgtaatttat tgcttcatta aggttacttt ttgttataca aaataaaaagc
6901 tgatatccaa gcaaaaaaaaaaaaaaaaaaaaa

FIG. 1C

1 mppggpqgap aaaggggvsh ragsrdclpp aacfrrrrla rrpgymrsst gpgigflspa
61 vgtlfrrfpgg vsgeeshhse srarqcglgs rgllvrspvs ksaaaptvts vrgrtsahfgi
121 qlrggtrlpd rlswpcgpgs agwqqefaaam dssetldasw eaacsdgarr vraagslpsa
181 elssnsncspg cgpevpptpp gshsaftssf sfirlslgsa gergeaegcp psreaeshcq
241 spqemgakaa sldgphedpr clsqpfslia trvsadlaqa arnssrperd mhslpdmdpg
301 sssslpsla gcggdgssgs gdahswdtll rkweplvrdc llnrnrrqmev islrlkqlqkl
361 qedavenddy dkaetlqqrl edleqekisl hfqlpsrgpa lssflghlaa qvqaalrrga
421 tqqasgddth tplrmeprll eptaqdslhv sitrrdwllq ekqqlqkeie alqarmfvle
481 akdqqlrrei eegeeqqlgwq gcdltpvlvgq lslgqlqeves kalqdtlasa gqipfhaepp
541 etirslqeri kslnlslkei ttkvcmsekf cstlrkkvnd ietqlpalle akmhaisgnh
601 fwtandltee irslltsereq leqlskllv lssrnvvkklg svkedynrlr revehqetay
661 etsvkentmk ymetlknklc sckcpillgkv weadleacrl liqclqlqea rgslsveder
721 qmddlegaap pipprlhsed krktpkvle ewkthlipsi hcaggeqkee syilsaelge
781 kcedigkkll yledqlhtai hshdedliqs lrrelqmve tlqamilqlq pakeagerea
841 aascmtagvh eaqa

FIG. 2

1 ttgtggaaag gatggatggg tgggtggatg gatggatgga tggatggctg gatggatgga
61 tagaaaatgca acttcaagat ctggttctac agtattacat atgaagcaac tgagactcag
121 ataaaaattca gtgagttgct gaagactatt cactcattga gcctcacatt ctgatgctat
181 atatatcagg tgcttatgcag atgattaggg aagggcagga ctgagattaa actgacaccc
241 cctacatcct aatccaggct ttttccactg tatggcgatg cctcccaaaa gaattatcac
301 agcgacttaa taaaggaggg agaaagttag ttgcaaattt caagcttaga aattcacagg
361 caaaaatggc tgaagggaaa taatcacact aatagtatg caaggatgta actggaaagg
421 aaaaaatgga gagaattaa aaacacaaaac agatttatgc agggcctgta taaagtgata
481 atgtaatcaa taaggcaaat caaagataaa tgattagaga tttaaaactt cagcctatca
541 gaaaaacctg agggaaaaga ttttgaattt tttttatttc ttccaaaaga tcctatttga
601 catattttt taaatctaaa tgaccaaaga tttcgaattt ggaaggcag acacataatct
661 atttcccata taaacatcta catttcttgc cacatagcac cgcaacactc atctggttcc
721 aaagcagacg gcttggccct ctgttatcaa gagcaacttc accgttctgg cccggagagc
781 taagttttct tatacatagg tcgtagccaa agctcagagg aaagaagtga catttggtgta
841 gtgtacagga tatgttctcc agccacttt taggtgctaa gttacatctt gaaataatgt
901 cagaaaattgg aagatgccgt atttaaactt cactagccca agccctaatt cacctcgaca
961 gtttaatatc ttaatgtttc taaaatttg aggactctta gaatgacccc tttaaaaatc
1021 tgctgaaaaa ctggatctt ttgtggaaa aactgtccat acctacatata cttaaaatgtg
1081 tatgtggttt cagtctctcc tgtgcacagt ccctcctgct ttgaaggat ccccaacatg
1141 ttttttcct agaggtatgtt ggtcacaacc atcgataac atgcttatca cctgggtgat
1201 aaaatattct ggacaccaaa ccccgatgac atgcaattta cctatataaa gaacctgcac
1261 atgtattcct gaacctaataa taaaaagttt taaaaataaa taatacaagt aaaagagctt
1321 tctgcatgtg ttataaatct gttcaggagg actttccact atgcttcaa gagaagtgtc
1381 ttgaagaatt tagcatact ctgaattccc aaaaagctt gtgctttca aggtgcttt
1441 gaggaagaag gatgatgctt caactgtctt ctttgctgtg acttctagga agttcattat
1501 cacatcatat tctcaaccaa ataattaaca cttgacattt gcattttctt ctgtctttgt
1561 ttttaaattt tattgttgt tgctaatttt attgtttta tctttgttgt atgtattgtc
1621 ccggctctcc atttcctccc tctccctgcc aataaaaagag acccatagat tttattctt
1681 tgttctactt tttcatcaat gtttcttcta catatatctg acatatatgg aaaaaagaat
1741 tactgcctat atatgcagaa cttgtaactc acaggatttc taaactaaaa gactttctt
1801 aatagggtgt aagtgaatt ctgcaagtag ctgcatctgg gaacttcaga gttaaaccga
1861 tatctcagta taatctgtca ctgctatagt ttctttctt tgacttccaa accttatgtt
1921 gaaatttgac ccccaatgtt gaaggtagag cctaattggg ggtgtctggg tctggggca
1981 gatccctcaa gaatagctt gtcataatg agttagttt cactctaata gtttctggg
2041 gagctggttg taaaaaagag tgtgtcatgt cccttctctc tcttttgct tcctctctca
2101 ccagtgatct gccttaggcca gctcccttc atcttctgcc atgagtgaa gcagcctgag
2161 gccctcacca gaagcagatg ttggcactat gcttcttaga cagcctgaa aactgtgagc
2221 caaagaattc cttttcttt ataaatgacc cagcctcagg tattcctcta tagcaacacga
2281 gatggactaa gacactcatg cttcccttca ttagctattt caagctaaaa aattgtgaga
2341 ctgtgccaag aatttagggca ggatcttgc attgagaact tacaactttt ctatctaaag

FIG. 3A

2401 caaaaggtcc taatccaaa ccataattgg aaaggtgcct ctactccaac ctcattgcc
2461 ttcaactgccc cttctctgc ctcccattcc cctcttactc accgaaagac aaatgagg
2521 aggctggca cagttagcca tcgttctcg aaaaaacaaaa tcttgctgct tggtattctc
2581 acttagaatc cttcaactt gcttatggat caccctacac agattcctga cagctcactg
2641 ggccatggaa ccagccagat tttttagcta catctgcagt atctttctt ctcaggcagc
2701 tggcataagg tggaaaatt cattaacatg ctaatgatgt cctatTTaaa attctagttcc
2761 tgattattct gtgattaaat ctctccctt gacgtcggtt tcctttatag ctgagttaca
2821 gtgcgaaatc aacaatatta ataaagtaca atacagatta ccaattata cacaaggat
2881 ggtaaaaac tgctgcgtaa atctgaggc tggcattttt acttggaaag cagttgtagg
2941 cggggcgcgg tggctcacgc ttgttaattcc agcactttgg gaggcctaag caggtggatc
3001 acctgaggc aggagttga gaccgcctg gccaacatgg tggaaaccccg tcactactaa
3061 aaaaatataa aaattagctg gcctataatc ccagctacact gggaggctga ggcaggagaa
3121 tcgctgaac ctgggagacg gaggttgcag tgagcagagt tcgcgcatt acacttcagg
3181 ctgggtgcaa gaagcaaaaac ttttgtctca aaaagagaat gtaaaagcag atgttagcaaa
3241 cttgtaaaag ttgctgattt ttttcatcc gcccattttt aaataaacac acacatttgg
3301 atccacaata attaaatgtt tatagttat ttccataaat attcaaggct tggaaagatag
3361 atttagctt tcattctatt tcactgcact taacattgtt ccgaattcaa atgtgttac
3421 ctgaagtctc aagaacagct gacaggagtt aaagcacact tggatcatc ctctttatag
3481 agattgtgtc ttggcaacaa aagccaatgg attcggtgat gaggtctgtc tccctttgcc
3541 cttgagtacc ttggcatatt tcagttcattt ttctatcacc gtattgttct attactgaca
3601 ctccaaactg aatatccaaac tcagacaact caagcacctt ccaagaaaaga caaacttac
3661 actaccctca ttaatttggaa aatgaataa agaagcagaa gattcaaggc ccagatctgc
3721 aatctaaaat gcaggaagag aggactcatt catgtgtcat tttaacatct ggccccagta
3781 aatgaacaaa tattgtatgtt atagtatatt tactatTTaa agacatca tgctggacac
3841 caaagcagta cagtgaaacc taagaacaat gttctgaccc cggtggactc acaatctac
3901 cagagacaca agatacaatg atattttaaatg tgatgcattc agcaattca tctcagggtc
3961 atcatttagag atacacttca catcattaaa aggtctctgt acgagagaca ctgctaattg
4021 ttccctaaga ctgcaaatct cccctttgc tatggaaaca gaattcatca ctttagtgg
4081 gcacattgtc gcccagggtt aggacagctc ccagccccctt ttgcaagtag ctgttaccat
4141 ataacaaggta taaggtcaca gggatgtggc ctagcagag atgtgtgcag atttctaaaa
4201 gctgtacttaa agggataga tgagctctt tccttcttgg tttttttct gactggactt
4261 ggacatgcat gtggctgggtt cagccagggtt ggactgaatg gcacatgtt tggggcagag
4321 aagaacaaga tagaagagtc tgggttccctt acaagcaggg tgggttgc atccatgagt
4381 tgccttttc ccctgaacgc tgcattccac aactattgtt ggaaatcaaa atctttttt
4441 aagaatacta catattgctc atttctaaaa tggtttcatc ctctaaggct aaaaagagtc
4501 atggtacatg catgcataatg tggatgtgc taagtacact ctcccttgc ctttctctac
4561 atttaaactt gaacacagag ctccctctga atttttacc ctcaaaaacac aaaaaaaagct
4621 gaatatggac tttggccctt ttttatcaca tttaataaaa taaaagctt aatgtatca
4681 ggaattcatt atttattttgtt ttcccacact ctcaacccta gattattaaat ttggttcacc
4741 taaagccaaac tcacccatcaaa ttggttaaaaaaa aaaaatataa acgtgtaaat caatgtatag

FIG. 3B

4801 ggaaagggtg gctgatccag caaaatccaa gtgtaaaaac ataaagagag gcttcacaac
4861 agtaatgagc catctgcaat tttagaatcat ccatggtaac aatctctcat tccattttgtt
4921 tatgttttat tcatacattgt gaaaatactt agtgaagtga caatgatgag attcaaaaat
4981 actgcattgt tctttttta aaaaggatat taatggctt cagggactca actattcaaa
5041 tgaaaatatt gctggactaa atttgctcaa atttggttcac ttcccttca ttcttgata
5101 taatataattc ttcatattat gacaaaaaac tatgtggta aaacatgaga aattccgtag
5161 tttccatcg tatacattt aaaaaatcaa tagcagaaac ctattcaaa tgtacaatcc
5221 tcattcctat catgacagag taaaccaggc tgccgtgtct tgggtgagcg tgggtcatt
5281 cccttagtact acagtttattt agcctcaaac gtactgtctc tagttacata tatggcaaaa
5341 acaaggcttgc accttttaaga atgaaaagaa aaaaagataa gtactgagct gttaaagccaa
5401 cttaaaggta ttcattacaa agaagacaga ataactactg aacatactct ttgattctaa
5461 tatctctatg aagaaaaccc tctctacaca aattgataga cattttaaaa gaaaatttt
5521 tcatccccaa ttgatgcact taacttcagc tagctgattt tataatttctc aatctagctt
5581 ataaatacta ctcttcattt acttcaattt acggagtatt tacaaaagcc ctatttcaaa
5641 tctggttcct atcagccccg tttttctta tttcttctta aataagcata ctttgtaaaa
5701 tatagccattt tattcatata tataatttctt tcattttgtt tagttaaatga catttattt
5761 ggaaccattt tttaaagaaaat aagtttttac catctcaatt tgcaactgaac cagcgtcttc
5821 tgagaccatc cctctgggtt caaatctcag agtaagctca gttactccta acgactggaa
5881 aaggaaagaa cacaggaaca cttgaactcc tctgacaagc agacactttg gctaaggcgg
5941 cattcacatc ttctacatca tccttcctgg gaaaagaagc tctcagaaaa gtcccacacat
6001 agaagagcca ctttatggtc ttccctcaat tttctcagat cagcctgatt tagtctatga
6061 ttgtgcasac aaggagacgg agccaaggga caaaaggaag ataattgtca cacaagaaaa
6121 atgctcaaga ccttgccaaag ggagagactg ctctaaataa taacaaggct attagcaaac
6181 acagggttag acagggaaaca gaaaaagaaa agatgtcwca tgtgaatatg aaaacaaaaag
6241 ctgacaagtw attccattca gtttgccaaag gcacctgcacaaaatgtccc caaggaaaa
6301 gggccatgtc ctccatgacg ctcttcacag tgaacgttca catwaaggca cagaacattc
6361 tgcctggcca caaaacacaaa caaatatcat caaatatctt ccggggtaac agttgtgcac
6421 tacctaccat aggcagtctc ctgggtctcc acttctcttc tcagtctgtt gtaatcttct
6481 ttaacacttc ccagctttt gacattcctg gaactcaaca ccaacagctt gctgaggagt
6541 ccctccagcc ctctctcttc tgatgttaat gatctaattt cctcggtgag gtcttttagcc
6601 gtccagaaaat ggtttcctac agcacgttgtt gggagagaag aaggaaaaac aagctttaca
6661 gcatccacac acatggaaga tctagcagca gctaattgtac attcacagca tgggcaaaaga
6721 aactgcactt tgagattatg twcaatttcc ttagcagtcc tctggggaaa gaacctggaa
6781 aaatattgtt ccccttaaac tggaaaaatc accgtctttt ttatcacctt attcttggta
6841 tgtccatattt aggagttcca ttgggtgaagc catctccctt aaagtatgtat gacccaaaaaa
6901 tgtcccagtg gaatccagag aaaccacaat gtgtcactcc attccaataa tataaaatg
6961 tcaaagagat gacatattat agcagtgtgg aaggggactg ggccatataa tcagagttga
7021 cctaaattaa attccctcccc tgtaactcaa attgtgtgac ctggagcaag aaaatttagca
7081 catctggggc aaatttctta taaaatataa ttgcaataac acctgactca taggttagtta
7141 caagaataaa caagaaatttgc tgtaaagcac tgagaaaaat atatgataaa ttaaatgttag

FIG. 3C

7201 caagattgca ggataacaagg tcaatgtaca aacatcaatc ttatgtctaa ataacaaaaa
7261 actagaagat gatTTTTAAaaaatacaat ttacaaaata ttTTTAAATCT cataataactg
7321 agggatactt tctTTAAATA tGTGCCCAGAG CTCTACAGTG AAAACTATTt TTCCAAAAct
7381 gctgaaacaa attaaagaca aataattaa aagatacact gtatacatac actggaaagtt
7441 caatatttgtt aagattcaa ttttccccac attgattcat tgatttaata taattccaat
7501 caaaatgtta tgaggTTCTT ttgttagaaat ttatgtgctt attctaaaac gtctaaaagt
7561 gagctgggca tgggtggctc acaccTgtaa Tcccagcatt ttgggaggcc gaggtggTgg
7621 gTccCTTgag gtcaggttt caagaccAGC ctggccaaca tggcAAacc ctatcttac
7681 taaaaatata aaaattaatc tggcacAGTg gtaaggcacct gtaatcccAG ctactcaaga
7741 ggctgaggca ggagaatcac ttaaAcccAG gaggTgtAGG ttgcAGCGAG ctgagatcct
7801 gCcactgcac tccagCTTGA gcaacAGAGT gagacttcat atctaaacaa ataaaatcta
7861 gaagaatgag cccatgaggT tgaggCTGTA gtgcactatg attgcacttt tgaacAGGCA
7921 ctacactCTT gtctgggcaa catagcaAGT ccccacCTCA aagaaggaga gggagaaaga
7981 agaagaagga ggaggaggAG gtgaaAGAGG gagggaggGA aggaaggaga agacgaagaa
8041 gaatgaagaa gaatAGGAAG aaagaAGAAG aaggaAGAGG aggaggAGGA tgacccaaam
8101 caatCCTTAA aaAGTgAGTC ttggTTTCAA gactaatGCT aaAGCCACTA taaatcaagg
8161 taatATGGCA ttGAATATAC atAGACAAAC agatcgatgg aatAGAATAA acAGTCCAGG
8221 agtggattaa cacatataca gCCAACAAA gTgCCAAAGC aagtcaatGA ggAAAAGAAA
8281 gtattttCAA taaatGGTGC tggAACAACT agCTATCTAC atggAAAAAA tattAACCTT
8341 gattcataCC tcaaACCACA caaaaATTa attAAAGGTG gatCACAGGC ctACATGTA
8401 aagttaaaAC tataaAGCTT ctacAAAAAA aAAAtGAATA tttgattGAC tttggAGTAG
8461 gcaAGAACTT cAGATAAGAT acAGAAACa CTATTTAA aaggATAAT gggCTTTATC
8521 AAAATTAAAA ACTTCTCATC AAAAGACACA ACTAAAAAAAT gagACGACAA gTCACAGACT
8581 tggagAAAAT cATTGCTTA tggTTAACTG ACAAGGAATT gaataACTACA ACTTGACAAT
8641 taaaACACAA ATGGTGCAT tggAAATGG tcaaATGACT taACAGGCAT tttacAAAGT
8701 agacgcacAA atggCTAATA AGCATATGAA AAAACATTG ACATCATTAA tcattaAGAA
8761 aagaaaaatt AAAACCATAA atattCCACT ACAAGCCAC tcaaATGTTT CAAATTAACT
8821 caactaaaaa tGTCAACATT cacaAGGGTA tggAGCAACT ggaACTCTCA CGCATGTA
8881 atggTCCCTT caagAAAAGT tCTGCAGTT tCTCATAAAG ttCAATGTAT acCTACCC
8941 taatCCAACA ATTCTACTTC caggCATTa cacaAAAGAA atgAAAACAT gTCATCAAAA
9001 atattGCAc tcaaATAAAT ggtcacAGTg tCTTATGCTT gagAGCCAGC CCCATACTGG
9061 aagcaaccta aatATCCATC AGCAGGAAGA TGCAAAAATA ATACTATAGC tatGCAATGA
9121 aagactactc AGCAATAAAA AGAAACAAAC TCGTCATACA TGCAGCAACA TGTATGTGTC
9181 tttttCTTC tttCTTTTT ttttttttG agacAGAGTT ttgttCTTGT tgcccAGGCT
9241 ggagtgcagt ggtacgatCT cagCTCactG caacCTCCAC CTTCAGTTT gaaACTATTc
9301 tcctgcCTCA gcCTCCCAAG tagCTAGGAT tacaAGTGCC caccACACG CCCAGTTAAT
9361 ttttGTTTTT ttTAGTAGAG cggggTTTC accatGTTGG ccAGACTGTT ctCAAACtCC
9421 tgacCTyGTG atCCACCCAC CTCAGCCTTC cAAAGTGCtG ggATTACAGG CGTGAAGCCAC
9481 CGCGCCCAGC CAACATGTAC ATGTCTTGT AAAAGATGCA AAAGAGTAGT GCCACATGAT
9541 tccattaaAGT tCTAGAAACAG cAAACATTAA TCCATGGTAG aAGATATCAG AACAGAGGAG

FIG. 3D

9601 ggacgatgat gactgggaca agatagggtg ttgtttcttg agtcatgaga ctgttctatc
9661 tcctggtagg gctgttcgta acacagggtt caaaaattcaa gaactgtaaa cacttaagac
9721 ctgtgcattc cactgaatat aaaccatacc tcaattaaaa agagaaaaaa ttaagaaatt
9781 tttaagcatg aacattgaac aataaataaa tatataacat taatgagtgt cccataaatt
9841 agtttagtgtt aatttagaaaa ccccaactgtg ttttctcaga atttatagta accataatca
9901 caataatagc tacaaacttt ctcacctta aatgtcatca caactttagg aaacaggta
9961 tatcttatat tattattatt attattatta ttattattat tattattta cattttaaca
10021 tctctgaaac agggatgtgt cctacaatca ccatcagcca ggaagtggc aggatgcagt
10081 ggttataact ggattatttt ccctggcctg gctgaccatc tgcaaccccc tggtgttca
10141 atgtacaaac tatttttagga ccatctgcgt actggctgtt gcctgaaaat cttgtgtga
10201 tgtggatttg taagactggg aaagcaccag cattcaaaac ttgaagaaag gtgttagcag
10261 ttggcagac aatcctacag aaaactctt attcttgggg gagaaaaagt tgcctcccat
10321 caactcaat ggttcacagg atgatgacgt gtggggaaac acaaacctcg acaacattga
10381 gtccaaatgt gtttcggaag actcagaatg aagaagaaga tgccaaaggaa aacctaacc
10441 aatttatttt ctttttaat gagtgatatg tgattttca aaagcctaaa tacatctaaa
10501 agagctatat cagttaaatgta taagataaaa attctaaacc atagaaagca ctgttactgc
10561 ttaattgaca gcaatttttc ttctttgcata atgtataaaa taatgggtgc tttttatgtt
10621 cactgaaatt cataattgtt tctccttta cagctggaa agcggaaatc tggagaacta
10681 aaatatcttgc tgaagatca caatgcagta aagcataggg caagtttcca actcgaacat
10741 cacccagaa cacttcctt taaacataaa ttatgttgct aacttttta ttgttactta
10801 gcaggcagat ttcaaactga tacaaatgtt gaaaatgata caaatgttt tcccacctta
10861 aaggcattct gaaaccttagc acataacatc tgtcaactgaa gtccatagtt tccaatgcca
10921 tgattggata aagaccctat tgagactcat gtgtttgtct ctcaactgctt aaaacactca
10981 tgtgtttaa gcaacatgac aagcacaaaa gagaacaagt actgctcctg ctctccagga
11041 agtaccata aaataaaggd gataagggtc cttccaaaga aaaaccaaact actaggagag
11101 gtcagaggag aagagagatt attccagaag gagagactga ggcagatttc aggagggaaag
11161 aatataaagg tcccaaaga agaaacagga acccaggtt gagagcaatg ggcaagggggt
11221 aggaggttag actaaactca caaggaagtt gcttcaaacc aatagtgcgg caaatgc当地
11281 gctgatgggt tggacccatt tagaaaaac ccacaaagtc cacaggagag cagactgc当地
11341 ttccatgago ttcaagctgt aaacagtaac ctcaataaa actttcccg gatcgtaat
11401 ttccatcctg aacaatggcc aagtcaagga agctgaggat cgagccccct accgc当地
11461 acaaagaacc tcaagggacc ccatgctctg gggagctcgc aggaggacca gcacagaggt
11521 gtgactgcgt tggggcaggg tggccacatg tacaatgtt taccttccaa tggccctc当地
11581 taggctgtgc ttatgaagtc ccaacatgac ttctggcgtg tggggcaac caagagagtt
11641 aataaaaaagt gggatgggca ccaactatgc ctccagagac atcaggcaga atatgcc当地
11701 gcgtgccatg tcctcctgca aacagtcaga aagaaaaagat ctctaaaagc aaattgg当地
11761 agactatata tacagagcga gtgcgggtac agaagtttg ctgcaaatac accctctaa
11821 cccttgcaac ccactgcaag ctcgagagac cagtgc当地 ggtaaaacac aggagagatc
11881 attaattaaa gccttaggccc tttctttgat cctgaggat aaggcttggg aaaatgc当地
11941 gtgataaaag tgaacatttt aaaagagcag agttagtgtg aattccaaa gagaccattc

FIG. 3E

FIG. 3F

14401 gcaagctctg cataatagct tgtgcttatt ctctttgggt aggttccat ttctttcac
14461 accagatagg catcatctt gaaaacatct ttactgggtc tcttgtctcc ctcctgcagc
14521 cactgatcta aatcacagac ttttttagaa agagggaaaa tagtaaagaa agaaagcgat
14581 tgagttgatg ctcccagcca ctgtctgtac cctgaattt gttttctgc catatgtcag
14641 gtggcctctc ctggaccatc gtcactgttt ctccctgcttc cctgcagctg cagacacacagg
14701 agcactgtgt aggtctggcc ttgagcaccc acccaccacag tacagagcca gccccctgctg
14761 ttctgaatca gtgcagtgac cacttagaac acagtgcaca tgcctctgtg atctgaactg
14821 ctcttccag ttccatacaa tgtaagaac ccacttaaga atgtttaat cattcagtag
14881 tttttcgtgg tatataataa aaaagtgatt taaataacaat ctattttatt ttagattata
14941 tcatttagggg ttatttaca aagttacctt taaatactat tgtaaataaaa attaataaca
15001 aa

FIG. 3G

FIGURE 4

ID	PAIR	FORWARD	REVERSE	SEQ ID	NOS LOCATION	SIZE
disc01	f2/r2	CATTAGCTGGCTAGATCTTC	TAAGGCACAGAACATTCTGCCG	50	51 exon9	353
disc02	f3/r3	TTATTCAAATTGTGACTGGAGTTC	CACTGGCTCTTTCACAGTATGG	52	53 exon10	280
disc03	f1/r2	GGTTATGATGAAACATCACTGAGTC	CTAAGTCATCCATCTGCCCTCTCATC	54	55 exon11	191
disc04/29	f1/r1	GAGCTACAGCTCCAGGAAG	GAGCATGGTCCCCAAAGCAC	56	57 exon11/11'	265
disc05	f2/r2	GAAGCTTCCCCTTGTGTTGTC	CGGCAGCATACTATTGTCGCAC	58	59 exon12	297
disc06	f1/r2	GCAGAGGGCCACGATCAC	CATCCCGTCACTCCTCAGGC	60	61 exon13	203
disc07	f1/r1	CATGACACCTGGTCCACGAAG	CAATCAGTCTCTCCATATTC	62	63 exon13	242
disc08	f1/r1	CAGTGTGAAACCTGAGGAGTC	CGTGTAAAGGTATGATGACAGAGTC	64	65 exon13	296
disc09	f1/r1	CATTGCGCTTCTGTCGAACG	CTTCTCTTCAGATGCCANTCATGGCAC	66	67 exon13	299
disc10	f1/r1	CAACCTCCCAGTGATATGCCAC	CTGCCCTTACTGAGGACTGCAGTC	68	69 exon13	320
disc11	f2/r3	CAGTAACAAATACAGTACTCAGGC	CTGCACACTGTTACTGAGCATTGCG	70	71 exon13	292
disc12	f2/r1	CTCAGGGCAGTGCATACTCAGTG	ACTAGCTGCGCTGTGTACTGAG	72	73 exon13	303
disc13	f1/r1	GTGTAGTGCTCAAGAACAGC	GTACATGACAGAGGGTACTC	74	75 exon13	297
disc14	f1/r2	CAAAGTGACTGAGGAAGGTGG	GTGAGTAAATCAGAGTTGGACTGG	76	77 exon13	311
disc15	f2/r3	CTCTTACATATCCATAGATCTAG	CAGAAGTGTGACAGGATGG	78	79 exon13	335
disc16	f2/r2	CACTGGGCTTTCAGAACGGCATC	CACTGGAAATACTAACAGATTTC	80	81 exon13	336
disc17	f2/r2	CATTTCATGTAACCCAAATTCCCTG	GCAGCAGGGAAATGAAACACTATC	82	83 exon13	376
disc18	f2/r1	CTTGGAAATTAAATACTGCCCTGAATG	CTGCTGTATAGTATGATGAGGATAC	84	85 exon13	307
disc19	f2/r1	CAACCTCTCAGGACAAGCCCAC	GTGACCATTGAAAGCAGCATTIC	86	87 exon13	314
disc20	f1/r2	GTTAGAATCTGATTGAC"GGGATG	CTTGGGAGGGTGGGGCACTGAG	88	89 exon13	295
disc20	f2/r1	GCACATACTGAAATGATGAGTTAG	ATGCCCTGTAACCCAGCTACTTG	90	91 exon13	334
disc21	f1/r2	CTCIACCTCCAGGTCAAGC	GGTACCAACCGTTACATGTTCTGG	92	93 exon13	342
disc22	f2/r2	GCACCCGCCAACTTCTG	CTCTGACTTGTAGTTCACTATTAC	94	95 exon13	306
disc23	f1/r1	CTAAGGCACAGAGCTGGTAAATG	GATGATGTTGGGGTGAATAGG	96	97 exon13	292
disc25	f2/r2	AGCCCTCACTGTGAAGTCTAGGC	CTATCATCCATACTTCAAGGAC	98	99 exon13	403
disc26	f1/r1	CACTGCCTTCTGATTTTGAATG	GGGACAAAAACACGATGTCCTGG	100	101 exon8	240
disc27	f2/r2	CTCGCTGAGGAAGAGGAGC	GGCACGGCCCTGACCTAACGC	102	103 exon1	316
disc28	f2/r2	CTGTAGTGGTATTGTAATTGTTACC	CAGAAGCACTCTCTCTGGCTC	104	105 exon7	287
disc30	f2/r1	GCCAAATGCTGGAAAAGAACGC	TGCCAGCTCTCTCCCGCTC	106	107 5'/promoter	168
disc31	f1/r1	CATCCCTCCATCTCTCCATCAC	CACGCTGCTGGAGGGCG	108	109 5'/promoter	207
disc32	f2/r2	GAGTCAGTGTAGGAGCTGGATTC	GIGGAAAGGCTCAGGATGG	110	111 5'/promoter	279
disc33	f1/r2	CCTATCCCTGMAACCATGCAAGAG	CAGCAGCTCCGGCTGGT	112	113 5'/promoter	300
disc34	f1/r2	CTGGGCCAGTAGAATCTGCATG	GAACACGGCTCCGGACCAAG	114	115 exon2	285
disc35	f1/r1	CCAGACAGTGTGGCCTTGACTC	GGCTGCAAGCTGTTACTCAAC	116	117 exon2	318
disc36	f1/r1	CTGGCAAGGATGGAGCAAGGC	ACATCGGGGGTCTCGTGGAG	118	119 exon2	295
disc37	f1/r2	CAGGAGGGCTGAGTCCCATG	GCACCTGGCTCCCATTTCTGTAG	120	121 exon2	314
disc38	f1/r1	CCAGTTCTCTGGATCCCTCAC	GAGGAAGTCAAGTTGAGGCCAGAAC	122	123 exon2	246
disc39	f2/r1	CAGTTCTAAATGTTCTTAAGTTTCAC	GATGGAAAGAAAATGGGACATGATGAC	124	125 exon3	215
disc40	f2/r1	GTTCACTACAACCTGGAGCTAAGAG	CTATGTGGGAGCTGAGGGTAGG	126	127 exon4	308
disc41	f1/r2	CATGAGGATTCAAGCTCTGCATAC	GAGCTATGATGTTGACCACTGCC	128	129 exon5	291
disc42	f2/r2	CGACCTGACCCCACTGGTG	GAATGCCCCACACCGTGAAG	130	131 exon6	300
disc43	f4/r2	GTITGGTAGTCTGGTGCZATATGGC	GGATGGAAGGGAAATCTGAC	132	133 exon6	327